

# ELLIS:LAWHORNE

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July 6, 2006

## **FILED ELECTRONICALLY AND FIRST-CLASS MAIL SERVICE**

The Honorable Charles L.A. Terreni  
Chief Clerk  
**South Carolina Public Service Commission**  
101 Executive Center Dr., Suite 100  
Columbia, SC 29210

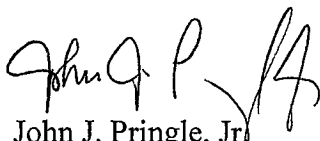
RE: Petition of Charter Fiberlink SC – CCO, LLC for Arbitration with Chesnee Telephone Company, Inc., **Docket No. 2006-137-C**  
Petition of Charter Fiberlink SC – CCO, LLC for Arbitration with West Carolina Rural Telephone Cooperative, **Docket No. 2006-138-C**  
Petition of Charter Fiberlink SC – CCO, LLC for Arbitration with Lockhart Telephone Company, **Docket No. 2006-139-C**  
Petition of Charter Fiberlink SC – CCO, LLC for Arbitration with Piedmont Rural Telephone Cooperative, Inc., **Docket No. 2006-142-C**  
**ELS File No. 797-11361**

Dear Mr. Terreni:

Enclosed is the **Direct Testimony of Michael P. Cornelius** filed on behalf of Charter Fiberlink SC – CCO, LLC in the above-referenced dockets.

Please acknowledge your receipt of this document by file-stamping the copy of this letter enclosed, and returning it in the enclosed envelope. If you have any questions or need additional information, please do not hesitate to contact me.

Very truly yours,



John J. Pringle, Jr.

cc: C. Lessie Hammonds, Esquire, Shannon Bower Hudson, Esquire  
John Bowen, Esquire, Margaret Fox, Esquire  
Charles A. Hudak, Esquire

Enclosures

**THIS DOCUMENT IS AN EXACT DUPLICATE, WITH THE EXCEPTION OF THE FORM OF THE SIGNATURE, OF THE E-FILED COPY SUBMITTED TO THE COMMISSION IN ACCORDANCE WITH ITS ELECTRONIC FILING INSTRUCTIONS.**

**BEFORE THE  
PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

In Re:	)	
	)	
Petition of Charter Fiberlink SC – CCO, LLC	)	
for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-137-C
Chesnee Telephone Company, Inc.	)	
Concerning Interconnection under the	)	
Communications Act of 1934, as amended by	)	
the Telecommunications Act of 1996	)	

In Re:	)	
	)	
Petition of Charter Fiberlink SC – CCO, LLC	)	
for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-138-C
West Carolina Rural Telephone Cooperative	)	
Concerning Interconnection under the	)	
Communications Act of 1934, as amended by	)	
the Telecommunications Act of 1996	)	

In Re:	)	
	)	
Petition of Charter Fiberlink SC – CCO, LLC	)	
for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-139-C
Lockhart Telephone Company Concerning	)	
Interconnection under the Communications	)	
Act of 1934, as amended by the	)	
Telecommunications Act of 1996	)	

In Re:	)	
	)	
Petition of Charter Fiberlink SC – CCO, LLC	)	
for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-142-C
Piedmont Rural Telephone Cooperative, Inc.	)	
Concerning Interconnection under the	)	
Communications Act of 1934, as amended by	)	
the Telecommunications Act of 1996	)	

**DIRECT TESTIMONY OF MICHAEL P. CORNELIUS  
ON BEHALF OF CHARTER FIBERLINK SC – CCO, LLC**

**July 6, 2006**



1 interexchange services to customers using facilities and services obtained from the Charter  
2 Communications cable television companies. Charter Fiberlink offers voice communication  
3 services primarily to residential customers and has recently begun offering such services to  
4 small business customers in some of its service areas. For the sake of brevity, I refer to  
5 Charter Communications and the Charter Fiberlink companies, specifically including Charter  
6 Fiberlink SC – CCO, LLC, as “Charter” throughout my testimony.

7 **Q. Please describe your educational background and work experience.**

8 A. I received a Bachelor of Science Degree in Civil Engineering from Marquette University in  
9 1982 and a Masters of Business Administration Degree from the University of Wisconsin –  
10 Milwaukee in 1987. I am a registered Professional Engineer in the State of Wisconsin.  
11 In the three years prior to coming to Charter, I held the position of Director of Engineering at  
12 TDS Telecom, a local exchange carrier with telephone and data networks in several states,  
13 including South Carolina. My responsibilities included overseeing the engineering of voice  
14 and data networks for TDS Telecom’s enterprise and commercial networks. Also, I had  
15 responsibility for managing the outside plant facility planning for TDS Telecom’s local loop  
16 and interoffice copper and fiber optic facilities. My position involved making decisions on  
17 various technology alternatives for switching, access and transport elements of voice and  
18 data networks. In addition, I have two years of experience as a Switch Engineering Manager  
19 for Sprint PCS, during which I was responsible for overseeing the design of switch, transport  
20 and interconnection networks associated with cellular service. Prior to Sprint PCS, I was  
21 employed by Ameritech for 13 years in a variety of network engineering and operations,  
22 sales support and cost analysis positions.

23 **Q. Before what state regulatory commissions have you previously provided testimony?**

1 A. I testified before the Minnesota Public Utilities Commission when I was employed by TDS  
2 Telecom, and I have testified before the Missouri Public Service Commission while  
3 employed by Charter.

4 **Q. What is the purpose of your testimony?**

5 A. The purpose of my testimony is to explain why a local exchange carrier (“LEC”) is  
6 responsible for delivering local calls that it originates to the LEC who serves the called party  
7 and why the originating LEC thus should be the one to decide whether to deliver such calls  
8 indirectly or over a direct connection to the terminating LEC (Issues 1, 2, 4 and 6 in Dockets  
9 2006-137-C, 2006-138-C and 2006-139-C and Issues 6, 7, 9 and 11 in Docket 2006-142-C);  
10 why it is important to require carriers promptly to enter into interim arrangements for the  
11 exchange of traffic upon request (Issue 28 in Dockets 2006-137-C, 2006-138-C and 2006-  
12 139-C); and why Charter should be entitled to a true-up of any payments it makes to  
13 Piedmont Rural Telephone Cooperative, Inc. (“Piedmont”) to reimburse it for transit fees  
14 paid to BellSouth Telecommunications, Inc. (“BellSouth”) (Issue 3 in Docket 2006-142-C). I  
15 also briefly discuss Charter’s unsuccessful efforts to determine the terms and conditions  
16 under which Piedmont is interconnected to its CLEC affiliate (Issues 4 and 5 in Docket  
17 2006-142-C), explain why I have no direct testimony concerning certain other issues (Issues  
18 3, 5, 8 and 26 in Dockets 2006-137-C, 2006-138-C and 2006-139-C and Issues 8, 10, 13, and  
19 31 in Docket 2006-142-C), and confirm that certain issues have been resolved (Issues 7 and  
20 9 in Dockets 2006-137-C, 2006-138-C and 2006-139-C and Issues 12 and 14 in Docket  
21 2006-142-C).

22 **INTERCONNECTION ATTACHMENT ISSUES**

23 

<i>Issues 1, 2, 4 and 6 in Dockets 2006-137-C, 2006-138-C and 2006-139-C</i>
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1  
2 **Q. What do you understand to be the basic obligations of carriers who seek to exchange**  
3 **local traffic with other carriers?**

4 A. When a LEC, such as Charter or one of the incumbent local exchange carriers (“ILECs”) in  
5 this case, files a tariff defining a local calling area, including an Extended Area Service  
6 (“EAS”) calling area, the LEC is essentially committing to its customers that it is going to  
7 deliver their calls to any called party with a telephone number that is assigned to a rate center  
8 within the local/EAS calling area that the LEC has defined. When a customer of that LEC  
9 then places a call to a customer of another LEC who has a telephone number that is assigned  
10 to a rate center in the local/EAS calling area, the originating LEC must deliver that call to the  
11 terminating company that serves the called party in order for the call to complete.

12 **Q. Are there costs associated with delivering calls to another LEC?**

13 A. Absolutely. There are always costs associated with delivering a call to the terminating  
14 switch, whether the terminating switch is owned by the originating LEC or another LEC.  
15 Those costs include the cost of transporting the call to the terminating switch, which may  
16 include intermediate switching costs as well.

17 **Q. Who bears those costs when a LEC delivers a call to another LEC?**

18 A. It is my understanding that the law requires the originating company to arrange for and to  
19 bear the cost of delivering its originated traffic to the terminating company.

20 **Q. Are you a lawyer, or are you offering a legal opinion?**

21 A. No, I am not a lawyer, and I am not here to testify about the law. But aside from what the  
22 law may technically require, this is simply a matter of fairness and common sense. The  
23 originating LEC has defined the calls in question as local or EAS calls. Only the originating

1 LEC has a relationship with the calling party, only the originating LEC receives any revenue  
2 from the calling party, and only the originating LEC even knows that the calling party wants  
3 to place a call to the called party. It would be unfair to require the terminating LEC, which  
4 has no control over whether a particular call from a customer of the originating LEC is a  
5 local/EAS call, to reach out and make the arrangements to permit the originating LEC's  
6 customer to make such a call. It would be unfair to expect the terminating LEC to bear the  
7 cost of getting the originating LEC's customers' local and EAS calls to the terminating LEC,  
8 because the terminating LEC has no relationship with the originating LEC's customers, no  
9 way to recover from them the cost of the calls they place, and no control even over whether  
10 calls to a particular location or a particular telephone number or a particular called party are  
11 local/EAS or toll calls. And it would be nonsensical to expect the terminating LEC to have  
12 the familiarity with the originating LEC's customers' calling patterns that is required to  
13 estimate how many of them will want to call the terminating LEC's customers, when they  
14 will want to call, and how often, an estimate that is needed in order to determine the most  
15 cost-effective way to complete the calls.

16 **Q. But in a situation where the two LECs do not provide service in the same local area,**  
17 **wouldn't requiring the originating LEC to bear the cost of delivering calls to the**  
18 **terminating LEC require the originating LEC to deliver traffic outside its service area?**

19 A. Yes, it does. The ILECs have not explained why it would be fair to require Charter to  
20 transport the traffic that Charter originates outside the area in which Charter provides service  
21 in order to deliver that traffic to the ILECs but not require the ILECs to do the same when  
22 they originate calls to Charter customers.

1 The ILECs have chosen to offer their customers the ability to make EAS calls to customers  
2 of at least some other LECs who are located outside the areas where the ILECs provide local  
3 service, and they charge their customers and collect revenue to pay the cost of doing so. It  
4 would be discriminatory and would impede or prevent the development of competition to  
5 permit the ILECs to offer their customers free calling only to customers of other ILECs, and  
6 it would also be unfair to their customers, who have no control over whether the party they  
7 want to call is a customer of an ILEC or a CLEC. And it would be similarly discriminatory,  
8 unfair and anticompetitive to require the ILECs to bear the cost of delivering their  
9 customers' EAS calls to other ILECs, as they always have, but not to require them to do so  
10 when delivering those same calls to a CLEC who serves customers in the ILEC-determined  
11 local/EAS calling area.

12 **Q. Doesn't it increase an ILEC's cost to be required to deliver traffic to more than one**  
13 **terminating LEC?**

14 A. Not necessarily, if total costs over time are taken into account and the ILEC makes the most  
15 cost-effective routing choice based upon the destination and volume of the traffic. While an  
16 ILEC may incur new costs in sending calls to a competitive local exchange carrier  
17 ("CLEC"), such as Charter, that has just entered the market, the originating ILEC no longer  
18 needs to incur the cost of sending those same calls to the LEC that previously served the new  
19 CLEC's customers. The cost of routing the same universe of calls to two other LECs could  
20 be more or less than the cost of routing all of the calls to a single other LEC, depending upon  
21 a variety of factors, including the routing choices made by the originating ILEC, the level of  
22 charges imposed by any intermediate carrier, and the relative distances to the terminating  
23 LECs' networks or switches. But if the cost of delivering the ILECs' customers' calls



1 increases because of the introduction of competition, then the ILECs need to become more  
2 efficient and find ways to reduce other costs, be satisfied with lower levels of profit, or if  
3 necessary, increase the rates they charge their customers or the subsidies they receive from  
4 universal service funding. Almost all ILECs receive substantial subsidies from state and  
5 federal universal service funds that generally are not available to CLECs such as Charter. If  
6 it would be unfair for the ILEC to increase its rates to all of its customers because only some  
7 of them make EAS calls to customers of other companies, then the ILEC should consider  
8 making free calling to locations outside its service area optional, so that only the customers  
9 who make such calls bear the cost of doing so.

10 **Q. You have referred to the originating ILEC as having “chosen” to treat calls to areas**  
11 **outside its service area as local calls. Aren’t the ILECs required to do this on the EAS**  
12 **routes at issue in this case?**

13 A. I am not familiar with the specific legal or regulatory requirements that apply to ILEC EAS  
14 routes in South Carolina. In general, however, EAS routes have come into being for a variety  
15 of reasons. Some have been proposed by ILECs, some are the result of customer petitions,  
16 and some result from government decisions. Even if the ILECs have been compelled to  
17 establish EAS routes, however, this was done as part of the same regulatory process that  
18 protected them from competition for almost a hundred years. And in every case that I know  
19 of, ILECs have been permitted to increase their local rates to cover the cost of providing  
20 EAS calling areas.

21 In fact, in many cases ILECs have been permitted to increase their local rates by more than  
22 the cost of delivering calls to another ILEC. Prior to the establishment of an EAS route, calls  
23 between customers of neighboring ILECs are toll calls for which the ILEC receives

1       originating and terminating access charges, which generally exceed the cost of originating or  
2       terminating a call. Indeed, the access charges of small, rural ILECs such as those involved in  
3       this arbitration often are several multiples of what it costs them to originate and terminate  
4       calls. In many, if not most cases, ILECs establishing EAS routes are permitted to increase  
5       their local rates to recoup the access revenues that they will no longer receive, which may be  
6       several times the cost of delivering EAS calls to other LECs.

7       **Q.    Is Charter required to provide EAS calling to customers of LECs who are located**  
8       **outside the area within which Charter provides service?**

9       A.    It is my understanding that in some states, Charter as a CLEC is required by law to offer its  
10       customers the same local calling scope that is offered by the ILEC serving the area where the  
11       customer is located. In such cases, Charter takes this legal obligation into account in deciding  
12       whether to offer service in a particular geographic area. If offering service in a particular  
13       geographic area would require Charter to establish inefficient arrangements for delivering  
14       local/EAS calls to carriers serving customers outside the geographic area within which  
15       Charter would offer service, Charter may be less likely to offer service in that area or more  
16       likely to postpone offering service in such area while it develops its business in other  
17       geographic areas where it does not face such uneconomic costs.

18       **Q.    Is Charter required to provide EAS calling on the routes involved in this arbitration?**

19       A.    It is my understanding that Charter is not required in South Carolina to mirror the local  
20       calling areas offered by the ILECs, but Charter generally seeks to offer its customers the  
21       same local calling scope as the ILEC for competitive reasons. If Charter is trying to sell its  
22       service to a customer located, for example, in the Laurens rate center, that customer expects  
23       to be able to make free local calls to customers of Piedmont who are located in the Laurens

1 Rural rate center because Verizon South, Incorporated (“Verizon”) offers free local calls  
2 from the Laurens rate center to the Laurens Rural rate center. If Charter tells the customer  
3 that Charter does not offer free local calling to customers in the Laurens Rural rate center,  
4 the customer generally will be less likely to sign up for Charter’s service. Although different  
5 rate centers and different ILECs are involved, this same scenario is equally applicable to  
6 Chesnee Telephone Company, Inc. (“Chesnee”), Lockhart Telephone Company (“Lockhart”)  
7 and West Carolina Rural Telephone Cooperative (“West Carolina”).

8 **Q. Does Charter always mirror ILEC local calling areas?**

9 A. In some limited circumstances where Charter is not required to offer the same local calling  
10 scope that the ILEC offers, Charter may decide that because of technical limitations or  
11 prohibitive expense it will not offer its customers free local calling to an area outside its  
12 service area to which the ILEC offers free local calling. Even in those cases, however, if the  
13 area where a Charter customer is located, and the telephone number assigned to that  
14 customer, are within the local calling area offered by the ILEC who serves the area where  
15 Charter has chosen not to mirror the ILEC local calling scope, the originating ILEC has an  
16 obligation to its customers to deliver their calls to Charter when they call that Charter  
17 customer.

18 If Charter chose, for example, to offer its customers free local calling only within the  
19 Laurens rate center, Charter would be handicapped in competing with Verizon for those  
20 customers’ business. Charter also would have no need to deliver its Laurens rate center  
21 customers’ calls to Piedmont, rather than to the customers’ presubscribed interexchange  
22 carriers, when Charter customers called Piedmont customers in the Laurens Rural rate center.  
23 But Piedmont would still be obligated to its customers to deliver their calls to Charter when

1 they called Charter customers in the Laurens rate center, as long as Piedmont's tariff  
2 provides that calls to telephone numbers rated in the Laurens rate center are local calls.  
3 Again, this scenario applies equally to the other ILECs in this case, substituting different rate  
4 centers.

5 **Q. Do Charter's decisions about the scope of its local calling area require the ILECs to**  
6 **deliver calls they originate to Charter at their expense?**

7 A. No. For example, if toll-free EAS calling did not exist today between Verizon customers in  
8 the Laurens rate center and Piedmont customers in the Laurens Rural rate center, a CLEC  
9 such as Charter might choose to compete with Verizon in the Laurens rate center by offering  
10 a larger local calling area than Verizon offered, possibly including free local calls to  
11 Piedmont customers with telephone numbers assigned to the Laurens Rural rate center. In  
12 such a case, Charter would have to arrange for the delivery of its customers' calls to  
13 Piedmont, at Charter's expense, as it does today, and it would be unfair for Charter to expect  
14 Piedmont to bear any of the cost of delivering calls originated by Charter customers to  
15 Piedmont.

16 Similarly, as I previously stated, if a CLEC such as Charter wanted to compete with Verizon  
17 today in the Laurens rate center but did not want to provide its customers free local calling to  
18 the Laurens Rural rate center, Piedmont's tariff permitting its customers to make free local  
19 calls from the Laurens Rural rate center to the Laurens rate center would obligate Piedmont  
20 to arrange for the delivery of its customers' calls to Charter. The fact that both Charter and  
21 Piedmont offer free local calling between the Laurens and Laurens Rural rate centers does  
22 not affect the basic principle that each one should be responsible, at its own expense, for  
23 delivering its customers' calls to the other, just as it would if it were the only LEC offering

1 its customers such local calling. And again, the same applies to Charter's exchange of traffic  
2 with the other ILECs in this arbitration.

3 **Q. Why is the originating LEC required to bear the cost of delivering its customers' local**  
4 **and EAS calls to the terminating LEC?**

5 A. It is my layman's understanding that this is required, but again, this is simply a matter of  
6 fairness and common sense. It is the originating LEC's customer who chooses to place the  
7 call and the originating LEC who chooses to rate calls to the terminating rate center as local.  
8 The originating LEC is the only LEC who has a relationship with the caller who chooses to  
9 place the call, the only LEC with any control over the charges for the call, and the only LEC  
10 with the ability to receive revenue from the calling party for the call. To require the  
11 terminating LEC to bear any part of the cost of delivering the call to the terminating LEC  
12 would simply be unfair. The terminating LEC has no control over whether the call is rated as  
13 a local call or a toll call and no revenue from the calling party to cover that cost. While  
14 Charter believes that originating companies generally should be permitted to define the scope  
15 of the local calling areas that they offer to their customers, it would be wholly unfair to  
16 permit originating companies both to define calls as local and also to shift to terminating  
17 companies the cost of delivering those calls to the terminating companies. And it would also  
18 be discriminatory and anticompetitive to permit them to do so selectively, bearing the cost of  
19 delivering their customers' local calls to neighboring ILECs but shifting the cost of such call  
20 delivery costs to terminating companies when the terminating companies are CLECs or  
21 CMRS carriers.

1   **Q.     Does the fact that the originating LEC is responsible for the cost of delivering its**  
2       **originated traffic to the terminating LEC have any bearing on how calls should be**  
3       **routed?**

4   **A.     Yes, it does. Because the originating LEC generally is or should be responsible, at its**  
5       expense, for delivering its originated traffic to the terminating LEC, the originating LEC  
6       should have the decision of how to route the traffic to the terminating party when there is  
7       more than one technically feasible alternative. The originating LEC bears the cost of the  
8       alternative that it has chosen, and only the originating LEC has enough information about its  
9       customers and their calling patterns to estimate the volume of traffic that it is likely to  
10      originate. Although it may be difficult for a CLEC that has just entered a market and has  
11      very few, if any, customers to estimate the volume of traffic that it is likely to originate to  
12      another LEC (and for an ILEC to estimate the volume of traffic that it will send to a CLEC  
13      that has just entered the market), this does not alter the fact that *only* the originating LEC has  
14      *any* information about its customers and their calling patterns.

15      On one hand, it is very inefficient to establish direct or dedicated trunks for small volumes of  
16      traffic. On the other hand, it can be prohibitively expensive to pay per-minute transit fees to  
17      send large volumes of traffic indirectly through a transit provider.<sup>1</sup> The originating LEC  
18      should be free to decide, among available technically feasible alternatives, how to route the  
19      traffic that it originates because it alone bears the cost of that decision.

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<sup>1</sup> This is especially true in states such as South Carolina that permit transit providers such as BellSouth to charge transit rates that are significantly above cost. Based upon the rates for other interconnection services in Charter's interconnection agreement with BellSouth, it costs BellSouth a little more than \$0.0012 per MOU (\$0.0007360 tandem switching + \$.0004095 common transport termination + \$0.0000045 common transport per mile x 15 miles) to provide transit service between Charter and Piedmont, but BellSouth's currently effective South Carolina tariff assesses a transit fee of \$0.006 per MOU, or nearly five times BellSouth's cost of providing the service.

1   **Q.   Aren't there a lot of direct connections between ILEC end offices and between**  
2       **neighboring ILECs, and isn't what the ILECs in this case are advocating just a**  
3       **variation on the same thing?**

4   **A.**   Yes and no. Yes, there are a lot of existing direct end office connections and direct  
5       connections between ILEC networks, but no, the ILECs really aren't advocating the same  
6       thing, or at least are arguing a perverse variation. In many cases, call volumes between  
7       specific pairs of ILEC end offices are quite high, more than enough to justify the cost of  
8       establishing direct trunks connecting a pair of end offices, even if new facilities must be  
9       constructed. Indeed, it is these high call volumes that historically have resulted in the  
10      establishment of EAS routes between exchanges served by different ILECs. But in many  
11      cases as well, there is an insufficient volume of calls between two end offices in the same  
12      local calling area to justify the cost of establishing direct trunks even where facilities are  
13      already in place that could carry the traffic. In addition, even where direct connections are  
14      established, the call volume may occasionally exceed the capacity of those connections. In  
15      each of these situations, ILECs use other approaches to route the traffic. Each end office in  
16      an ILEC network is associated with at least one tandem switch that is capable of switching  
17      calls among trunks from different end offices. Tandems serve as aggregation points, allowing  
18      end offices to send an efficient volume of calls over a single trunk group by combining calls  
19      to different terminating end offices. The tandems then switch the calls to trunk groups  
20      carrying similarly efficient volumes of calls from multiple originating end offices to each  
21      terminating end office.

22      Requiring CLECs to establish direct connections to each terminating LEC to whom they  
23      originate traffic, as the ILECs in this case advocate, would require duplicative, unnecessary,

1 and inefficient facilities and would force the CLECs' networks to incorporate the  
2 inefficiencies of existing ILEC networks without the economies of indirect connections  
3 through tandem switches that are built into the ILEC networks. Doing so would handicap  
4 CLECs' efforts to compete with traditional ILEC services by imposing unnecessary costs, as  
5 well as hindering their ability to employ innovative technologies and network topologies to  
6 provide new kinds of services or to find new, more efficient ways to provide traditional  
7 services.

8 **Q. What practical alternative is there to requiring direct connections between LECs?**

9 BellSouth is in the position of being capable of providing transit service connecting virtually  
10 all carriers in South Carolina because it built a ubiquitous network over many years with  
11 revenues derived from monopoly-provided services. It would be absurd to ignore the  
12 ubiquity of BellSouth's network and its ability to efficiently interconnect all carriers by  
13 requiring these facilities to be duplicated not due to engineering practices or business needs  
14 but because of regulatory intervention. Since BellSouth is already interconnected with all  
15 carriers sending traffic to its network, the facilities over which parties can exchange traffic  
16 indirectly have already been constructed and are in place and are, therefore, the most  
17 efficient way to exchange traffic in relatively small volumes. If a direct interconnection were  
18 required in every case, Charter and an ILEC such as those involved in this case would be  
19 forced to establish a new facility that duplicates the same path and function as the facilities  
20 currently used by BellSouth to provide transit service to them, even if they were exchanging  
21 only a few calls a month. This would unnecessarily increase Charter's costs (and likely the  
22 ILECs' costs as well) and would squander the efficiency inherent in BellSouth's ubiquitous,  
23 interconnected network with its tandem switches.



1   **Q.     Why should the ILECs have to pay BellSouth to transit their traffic?**

2   A.     The ILECs contend that they should not be required to pay transit fees to BellSouth in order  
3           to deliver their originated traffic to a CLEC, but there is no valid basis for their position.  
4           First, to the extent an ILEC uses BellSouth's tandem switches to deliver its traffic to other  
5           LECs who are also connected to the BellSouth tandem switches, it is a matter of competitive  
6           fairness that the ILEC is expected to incur the same cost that any other LEC incurs to use the  
7           same functions. Second, BellSouth certainly does not have to provide the service for free,  
8           and it would be discriminatory on its face for BellSouth to permit these ILECs to utilize  
9           BellSouth's network without charge while charging CLECs not only for their own use of the  
10          BellSouth network *but also for the ILECs' use of the BellSouth network*. Finally, under the  
11          interconnection terms proposed by Charter, an ILEC would always have the option of  
12          establishing a one-way direct trunk group if it believed that it would be less expensive to do  
13          so than to pay BellSouth to transit its originated traffic to Charter.

14   **Q.     What factors should be considered in deciding whether to establish a direct connection?**

15   A.     CLECs generally consider several factors when determining whether to interconnect directly  
16           or indirectly with another specific carrier. Evaluation of such factors is typically conducted  
17           in conjunction with a comprehensive and proprietary network design plan, but no uniform set  
18           of factors is applicable to each and every determination to employ or not deploy direct  
19           interconnection trunking. The factors that any prudent carrier would examine in determining  
20           the choice among options for interconnection arrangements with another carrier include, but  
21           are not limited to:

- 22           •       The applicable interconnection obligations of each carrier.
- 23           •       The preferences of the carriers involved.

- The distance between the parties' networks or switches.
- If there are existing facilities, the location of convenient points for the parties to connect trunks.
- The level of traffic to be exchanged.
- The price of facilities available from third parties.
- The price for other arrangements such as transit arrangements.
- The need to identify and measure traffic for compensation purposes.
- The cost of new facilities where no facilities exist.
- The status of available technologies.
- Anticipated growth in use of the planned facilities.
- Quality of service expected.
- Cost of transport from the carrier to the tandem and the tandem to the end office.
- Expense of transport from the carrier directly to the end office (where the direct trunks would be established).
- Costs of additional switch ports
- Busy hour call volume that will be used to determine the number of direct trunks needed.

**Q. Would the cost of a direct connection to one of the ILECs in this case really have a substantial impact upon Charter?**

A. Viewed in isolation, the cost of a single inefficient direct connection may not seem significant, but this arbitration concerns Charter's interconnection with four ILECs. Requiring Charter to establish direct trunks to each of these four ILECs would be

1 approximately four times as costly and inefficient as requiring it to establish direct trunks to  
2 only one of them. In the long run, moreover, Charter is likely to need to interconnect with  
3 most or all of the ILECs in South Carolina, and as Charter expands its offering of voice  
4 communication services nationally, Charter ultimately will need to exchange traffic with  
5 potentially hundreds of ILECs with whom it does not compete directly and with whom it  
6 may not exchange enough traffic to justify the cost of direct connections. In the aggregate,  
7 the inefficient costs of such direct connections could cripple Charter's effort to provide a  
8 fully facilities-based alternative for residential customers.

9 *Issue 8 in Dockets 2006-137-C, 2006-138-C and 2006-139-C*

10 *Issue 13 in Docket 2006-142-C*

11 **Q. Do you have any testimony concerning what has been identified as Issue 8 in Dockets**  
12 **2006-137-C, 2006-138-C and 2006-139-C and as Issue 13 in Docket 2006-142-C?**

13 A. No. Although this issue remains open, there really is no remaining disputed language that  
14 does not also relate to what is identified as Issue 1 in Dockets 2006-137-C, 2006-138-C and  
15 2006-139-C and as Issue 6 in Docket 2006-142-C. If the PSC rules for Charter on Issue 1/6,  
16 the parties have already agreed to the language related to Issue 8/13. If the PSC rules for the  
17 ILECs on Issue 1/6, the remaining language on Issue 8/13 will be irrelevant.

18 *Issues 3, 5 and 26 in Dockets 2006-137-C, 2006-138-C and 2006-139-C*

19 *Issues 8, 10 and 31 in Docket 2006-142-C*

20 **Q. Do you have any testimony concerning what have been identified as Issues 3, 5 and 26**  
21 **in Dockets 2006-137-C, 2006-138-C and 2006-139-C and as Issues 8, 10 and 31 in**  
22 **Docket 2006-142-C?**

1 A. No, because Charter considers these issues to be purely legal issues for which testimony is  
2 not appropriate. If necessary, I will address these issues in my rebuttal testimony.

3 *Issues 7 and 9 in Dockets 2006-137-C, 2006-138-C and 2006-139-C*

4 *Issues 12 and 14 in Docket 2006-142-C*

5 **Q. Have the issues identified as Issues 7 and 9 in Dockets 2006-137-C, 2006-138-C and**  
6 **2006-139-C and as Issues 12 and 14 in Docket 2006-142-C been resolved?**

7 A. Yes, they have.

8 **INTERIM ARRANGEMENT ISSUES**

9 *Issue 28 in Dockets 2006-137-C, 2006-138-C and 2006-139-C*

10 *Issue 3 in Docket 2006-142-C*

11 **Q. Why is it important to require ILECs promptly to enter into interim arrangements for**  
12 **the exchange of traffic upon request pending the negotiation of an interconnection**  
13 **agreement or an agreement for the exchange of traffic on a long term basis?**

14 A. Unless an ILEC promptly enters into an interim arrangement for the exchange of traffic with  
15 a facilities-based CLEC pending the negotiation (and arbitration, if necessary) of an  
16 interconnection agreement or long term traffic exchange agreement, it can use the failure or  
17 refusal to load the CLEC's NXX code as improper leverage to obtain inappropriate terms for  
18 the final agreement.

19 **Q. What do you mean when you refer to "loading" the CLEC's NXX code?**

20 A. North American telephone numbers take the form NPA-NXX-XXXX. The first three digits,  
21 the NPA, are also commonly referred to as the "Area Code." Aside from certain NPAs that  
22 are used for specific kinds of services, such as the use of the 800, 888 and 877 NPAs for toll-  
23 free long distance calling, NPAs identify the general area or region within which a number is

1 assigned. In most cases, a block of 10,000 numbers consisting of a single NXX within an  
2 NPA is assigned to a carrier, and the NPA-NXX digits uniquely identify the end office  
3 switch that serves the customer to whom the number is assigned. In some areas where  
4 number pooling has been implemented, numbers are assigned to carriers in blocks of 1000,  
5 so that the serving end office switch is identified by the NPA-NXX-X digits of the telephone  
6 number.

7 In order for carriers to know how to route calls to particular customers, each NPA-NXX or  
8 NPA-NXX-X block of numbers is entered into a master industry database when it is first  
9 assigned to a carrier, together with information identifying the carrier and the switch that will  
10 serve customers to whom the numbers within the NXX are assigned. This master database,  
11 known as the "Business Integrated Routing and Rating Database System," or "BIRRDs," is  
12 maintained by Telcordia Technologies, Inc. Telcordia uses the information in BIRRDs to  
13 publish the Local Exchange Routing Guide, or LERG. Essentially all telecommunications  
14 carriers in North America either subscribe to the LERG or rely upon consultants who  
15 subscribe to the LERG for the programming of their switches. The LERG provides the  
16 detailed information necessary to permit an originating end office switch or any other switch  
17 in the routing path of a particular call to determine how to route the call to the terminating  
18 end office switch. The process of programming a switch using information from the LERG is  
19 often referred to as "loading" the NXX code into the switch.

20 **Q. Are all calls routed according to the information and instructions in the LERG?**

21 A. No. Although the LERG is an industry-wide source of information for the routing of calls, a  
22 substantial volume of telecommunications traffic is routed in ways that are not reflected in  
23 the LERG. While it would be unusual for a call over a distance of hundreds of miles, which

1 might pass through several switches en route, to be routed other than pursuant to the LERG,  
2 many local and intraLATA calls are routed both within ILEC networks and between  
3 networks in ways that are not shown in the LERG. EAS calls in particular are frequently  
4 routed differently from the instructions in the LERG. While routing in accordance with the  
5 LERG ensures that a call will always complete properly (unless there are errors in the  
6 underlying entries into BIRRDs), there often are one or more, and sometimes several,  
7 technically feasible ways to route a particular call that are not shown in the LERG. For  
8 example, neighboring ILECs typically exchange EAS traffic over trunks that route traffic in  
9 ways that are not identified in the LERG, as the ILECs in this case do when exchanging EAS  
10 traffic with BellSouth and Verizon. As I discussed previously, an originating LEC should  
11 have the choice among two or more technically feasible ways to route a call because it bears  
12 the cost of that choice.

13 **Q. Are negotiations necessary before loading an NXX code?**

14 A. The loading of NXX codes is a non-issue for most of the carriers with which Charter  
15 exchanges traffic. The industry standard Central Office Code Assignment Guidelines<sup>2</sup>  
16 provide a forty-five (45) day period after a new NXX code is entered into the LERG for  
17 carriers to “load” the NXX code, or program their switches to recognize the NXX and route  
18 calls to numbers in the NXX to the serving end office switch, before numbers within the  
19 NXX are assigned to actual customers for the routing of live traffic. Most companies,  
20 whether they are ILECs, CLECs, wireless or long distance carriers, routinely load new NXX  
21 codes into their switches during that forty-five day interval. This practice ensures that calls to

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<sup>2</sup> The Central Office Code Assignment Guidelines (COCAG) are published on behalf of the Industry Numbering Committee by the Alliance for Telecommunications Industry Solutions as ATIS-0300051. The current edition is dated March 17, 2006.

1 numbers within the NXX are properly routed, so that calls can be completed, as soon as they  
2 are actually assigned to customers.

3 **Q. Are the ILECs in this case following standard practices concerning the loading of NXX**  
4 **codes?**

5 A. No. It has been Charter's experience that a minority of carriers, including the ILECs  
6 involved in this arbitration, refuse to follow this industry standard practice and load a new  
7 NXX code if it is assigned to a CLEC with whom they do not have a formal interconnection  
8 agreement.

9 **Q. What is the effect of such a refusal?**

10 A. Such refusals make the ILECs' customers unable to place calls to customers of the CLEC  
11 who are assigned telephone numbers from the new NXX. Because most end users are not  
12 familiar with how calls are routed within the telephone network, both the ILECs' customers  
13 who cannot place calls to their friends or neighbors who are served by the CLEC and the  
14 CLECs' customers who cannot receive those calls may believe that the CLEC is blocking  
15 such calls. In many cases, the practical effect of an ILEC's failure or refusal to load a  
16 CLEC's NXX code is that the CLEC loses a customer because the change to the CLEC's  
17 service appears to the customer to have caused the problem. In some cases, such ILECs  
18 actually tell their customers that the CLEC is the cause of the problem and do not disclose  
19 that it is their failure to program their switches in accordance with industry standards that  
20 results in the inability to place such calls. And regardless of customers' perceptions  
21 concerning the cause of the problem, the inability of some customers to call new Charter  
22 customers negatively impacts Charter's marketing and its ability to develop its business,  
23 even when it is not seeking to compete with the ILEC in question.

1   **Q.     Why do such carriers refuse to load CLEC NXX codes without a formal agreement?**

2   A.     Such carriers who refuse to load NXX codes in accordance with industry practice typically  
3           use that refusal to attempt to negotiate inappropriate terms and conditions for interconnection  
4           with the CLEC to whom the NXX is assigned. As in this case, such carriers often demand  
5           that Charter establish inefficient direct connections, seek to shift costs to Charter that they  
6           properly should bear, or insist that calls be routed solely in accordance with the LERG even  
7           when there are more cost-effective ways to deliver the traffic. For example, all of the ILECs  
8           in this case have sought to use their refusal to load Charter's NXX code as leverage to get  
9           Charter to agree to inefficient direct connections and to agree to reimburse them for any  
10          transit fees they may pay in order to deliver calls to Charter. Until Charter filed for  
11          arbitration and submitted an Emergency Motion for Interim Relief, Piedmont went so far as  
12          to demand that Charter agree not to serve customers located in Piedmont's service area,  
13          despite the fact that this Commission has authorized Charter to do so, before Piedmont  
14          would agree to load Charter's NXX.

15   **Q.     Is there any legitimate basis for such demands?**

16   A.     No. It is ironic that many of the carriers who refuse to load NXX codes in accordance with  
17          industry standards seek to use their refusal as leverage, as the ILECs in this case have, to  
18          require CLECs to agree to route traffic solely in accordance with the LERG. Usually, as in  
19          these cases, the refusing carriers do not themselves route the EAS traffic that they exchange  
20          with other ILECs in accordance with the LERG, but they refuse to route calls to Charter (or  
21          agree to allow Charter to route calls to them) in the same manner or over the same trunks that  
22          they use to exchange EAS traffic with other ILECs. Like the ILECs in this case, such carriers  
23          generally contend that routing calls in ways that are not shown in the LERG is somehow



1 inherently improper or inconsistent with industry practices, when such routing is in fact  
2 commonplace, and despite the fact that it is their refusal to load Charter's codes, and not  
3 Charter's preferred routing, that is inconsistent with industry practices.

4 Such practices on the part of some carriers, including the ILECs involved in this case,  
5 demonstrate the importance of establishing interim arrangements, subject to true-up, for the  
6 exchange of traffic while final interconnection agreements are being negotiated. The process  
7 of negotiating and potentially arbitrating an interconnection agreement often takes several  
8 months or more. Even when circumstances permit arbitrations to be conducted and resolved  
9 within the time frame that I understand is generally required by law, it takes the better part of  
10 a year to negotiate, arbitrate and finalize an interconnection agreement. In the case of fully  
11 facilities-based CLECs such as Charter who are able to provide service as soon as they can  
12 exchange traffic with other carriers, such lengthy negotiations can deny competitive choices  
13 to consumers for protracted periods. For this reason, Charter seeks a formal interim traffic  
14 exchange arrangement whenever it becomes aware that an ILEC with which it needs to  
15 exchange local or EAS traffic has not loaded Charter's codes. In some cases, Charter also  
16 enters into such formal interim arrangements with ILECs who have already loaded Charter's  
17 codes, but Charter has found that many, if not most, carriers do not insist upon formalizing  
18 such interim arrangements.

19 

<i>Issue 3 in Docket 2006-142-C only</i>
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20 **Q. Please describe Charter's experience negotiating an interim traffic exchange**  
21 **arrangement with Piedmont.**

22 **A.** Charter requested an interim traffic exchange arrangement with Piedmont in November  
23 2005, before Charter even formally requested interconnection with Piedmont, because

1 Charter had received a number of complaints that Piedmont customers could not call Charter  
2 customers located in Piedmont's EAS areas. Although Charter and Piedmont already were  
3 indirectly interconnected through their direct connections to BellSouth's Greenville tandem,  
4 Piedmont refused to route calls to Charter over this technically feasible route unless Charter  
5 reimbursed Piedmont for any transit fees assessed by BellSouth. As I previously discussed,  
6 such transit fees properly should be borne by Piedmont as part of the cost of delivering to  
7 Charter calls that are defined as EAS calls in Piedmont's tariff. Because of the volume of  
8 customer complaints that Charter was receiving as a direct result of Piedmont's refusal to  
9 load Charter's NXX into Piedmont's switch, Charter offered in early December to reimburse  
10 such transit fees on an interim basis if Piedmont would promptly load Charter's NXX and  
11 commence routing calls to Charter over the existing indirect interconnection.

12 Despite the customer-affecting problem, and despite Charter's offer to reimburse a cost that  
13 properly should be borne by Piedmont, it took Piedmont nearly a month simply to send  
14 Charter a proposed agreement for the interim exchange of traffic, and Piedmont in that draft  
15 proposed to charge Charter tariffed rates for calls it originated, in addition to the  
16 reimbursement of any transit fees.<sup>3</sup> Piedmont further delayed negotiations by demanding that  
17 Charter provide to Piedmont proprietary and confidential information concerning Charter's  
18 customers and ultimately sought a commitment that Charter would not serve customers in  
19 Piedmont's territory before Piedmont would execute the interim arrangement agreement. As  
20 I mentioned previously, it was not until after Charter filed for arbitration and sought  
21 emergency interim relief from this Commission that Piedmont retracted that demand and  
22 finally signed the interim arrangement.

---

<sup>3</sup> Piedmont did not specify what tariff rates it intended to apply. I am not aware of any filed tariff of Piedmont that would apply to such traffic.

1   **Q.     Why does Charter believe it should receive a true-up of its interim arrangement with**  
2       **Piedmont?**

3   A.     Charter’s original offer to reimburse Piedmont for transit fees paid to BellSouth was  
4       expressly stated as part of a request for Piedmont promptly to enter into an interim  
5       arrangement and load Charter’s NXX and commence delivering calls to Charter. The interim  
6       arrangement ultimately executed by Charter and Piedmont requires Charter to reimburse  
7       such transit fees on an interim basis, but Piedmont did not do anything “promptly,” much  
8       less load Charter’s NXX and begin delivering calls. For that reason, this Commission should  
9       order a true-up of that arrangement when the parties enter into a final, arbitrated  
10      interconnection agreement and require Piedmont to refund any amounts paid by Charter as  
11      reimbursement of transit fees. An interim arrangement to permit traffic to flow while  
12      companies negotiate a final interconnection agreement should not place either party in a  
13      worse position than it would be in if it had not taken time to negotiate and/or arbitrate the  
14      final agreement. Charter would not have sought a true-up of the interim arrangement if  
15      Piedmont had complied promptly with Charter’s request and the parties had negotiated an  
16      interconnection agreement and would probably not even have sought such a true-up  
17      following arbitration if Piedmont had promptly loaded Charter’s NXX. But this Commission  
18      should not permit Piedmont to delay loading Charter’s NXX for roughly six months, as it  
19      did, while retaining the benefit of reimbursement that Charter offered only as an inducement  
20      for prompt performance. Accordingly, the Commission should order a true-up of the interim  
21      arrangement when the parties execute their final interconnection agreement and should  
22      require Piedmont to refund any amounts it has received from Charter as reimbursement of  
23      BellSouth transit fees.

1  
2 **Q. Is Charter seeking interim traffic exchange arrangements with Chesnee, Lockhart and**  
3 **West Carolina?**

4 A. Yes. Charter did not pursue interim arrangements with these three ILECs as aggressively and  
5 did not offer to reimburse their transit costs because it had not received the high volume of  
6 complaints that it did in Piedmont's case. Nevertheless, Chesnee, Lockhart and West  
7 Carolina have not loaded Charter's NXX into their switches and are not routing calls to  
8 Charter's NXX over the technically feasible indirect interconnections that already exist  
9 between their networks and Charter's network. As a result, the Commission should require  
10 Chesnee, Lockhart and West Carolina to load Charter's NXX immediately and to route  
11 traffic, at least on an interim basis, over the existing technically feasible routes, subject to a  
12 true-up to the compensation terms that are established in the final interconnection  
13 agreements by negotiation and arbitration.

14 **AGREEMENT ADOPTION ISSUES**

15  
16 **Q. Please explain the significance of what have been identified as Issues 4 and 5 in Docket**  
17 **2006-142-C.**

18 A. Having worked closely with our own regulatory staff and attorneys over the last five years, it  
19 is my understanding that federal law allows a CLEC to adopt the terms of an interconnection  
20 agreement between an ILEC and another CLEC that has been approved by the state  
21 commission. Because the adoption of an existing agreement often is the quickest way to  
22 finalize an interconnection agreement with an ILEC, Charter generally reviews existing

interconnection agreements that an ILEC has with other CLECs as part of Charter's process of seeking an agreement for interconnection or traffic exchange.

**Q. Has Charter reviewed existing agreements between Piedmont and any other CLECs?**

A. No. Charter has been unable to find any interconnection agreements between Piedmont and any CLEC on the PSC's web site.

**Q. Does Piedmont have an affiliated CLEC?**

A. Yes. Piedmont has an affiliated CLEC named PRTCommunications, LLC, which offers service in the Laurens rate center in competition with Charter.

**Q. Did Charter request a copy of Piedmont's interconnection agreement with PRTCommunications?**

A. Yes.

**Q. Did Piedmont provide a copy of the agreement?**

A. Piedmont never directly responded to Charter's request, although its consultants suggested that there might be no such agreement.

**Q. Does Piedmont exchange traffic with PRTCommunications?**

A. While I have no actual knowledge of that being the case, it seems virtually certain that they do. According to Piedmont's Return to Charter's Petition for Arbitration, PRTCommunications "shares Piedmont's switch."<sup>4</sup> Piedmont claims that it "does not have, nor does it need, an interconnection agreement with its CLEC affiliate."<sup>5</sup> Because Piedmont offers its customers free EAS calling from the Laurens Rural rate center to the Laurens rate center as discussed above, and because PRTCommunications presumably offers its customers free EAS calling from the Laurens rate center to the Laurens Rural rate center as

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<sup>4</sup> Return to Petition of Charter Fiberlink SC – CCO, LLC for Arbitration with Piedmont Rural Telephone Cooperative, Inc. at 7.

<sup>5</sup> *Id.*

1 Verizon and Charter do, Piedmont and PRTCommunications must certainly be exchanging  
2 traffic.

3 **Q. What is the issue in this arbitration concerning Piedmont's exchange of traffic with**  
4 **PRTCommunications?**

5 A. Charter believes that it is entitled to exchange traffic with Piedmont on the same terms and  
6 conditions that PRTCommunications does. Whether Charter would desire such terms and  
7 conditions is a separate matter, but Charter cannot determine that without reviewing the  
8 terms and conditions that exist between Piedmont and PRTCommunications.

9 **Q. What relief does Charter seek from the PSC concerning this issue?**

10 A. Charter believes that the PSC should require Piedmont to memorialize the terms and  
11 conditions pursuant to which it exchanges traffic with PRTCommunications and file those  
12 terms and conditions with the PSC for approval as an interconnection agreement. Charter  
13 then would be able to review the agreement between Piedmont and PRTCommunications  
14 and adopt the same terms and conditions if Charter found them to be acceptable.

15 **Q. Does this complete your testimony?**

16 A. Yes, it does.

**BEFORE THE  
PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

In Re:	)	
	)	
Petition of Charter Fiberlink SC – CCO,	)	
LLC for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-137-C
Chesnee Telephone Company, Inc.	)	
Concerning Interconnection under the	)	
Communications Act of 1934, as amended	)	
by the Telecommunications Act of 1996	)	
 In Re:	 )	
	)	
Petition of Charter Fiberlink SC – CCO,	)	
LLC for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-138-C
West Carolina Rural Telephone	)	
Cooperative Concerning Interconnection	)	
under the Communications Act of 1934, as	)	
amended by the Telecommunications Act	)	
of 1996	)	
 In Re:	 )	
	)	
Petition of Charter Fiberlink SC – CCO,	)	
LLC for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-139-C
Lockhart Telephone Company Concerning	)	
Interconnection under the	)	
Communications Act of 1934, as amended	)	
by the Telecommunications Act of 1996	)	
 In Re:	 )	
	)	
Petition of Charter Fiberlink SC – CCO,	)	
LLC for Arbitration of Certain Terms and	)	
Conditions of Proposed Agreement with	)	Docket No. 2006-142-C
Piedmont Rural Telephone Cooperative,	)	
Inc. Concerning Interconnection under the	)	
Communications Act of 1934, as amended	)	
by the Telecommunications Act of 1996	)	

## CERTIFICATE OF SERVICE


This is to certify that I have caused to be served this day, one (1) copy of the **Direct Testimony of Michael P. Corneliu** by placing a copy of same in the care and custody of the United States Postal Service (unless otherwise specified), with proper first-class postage affixed hereto and addressed as follows:

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July 6, 2006  
Columbia, South Carolina